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10/541,355

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EXAMINER

ROBERTSON, DAVID

ART UNIT

PAPER NUMBER

2121

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/541,355	<b>Applicant(s)</b> KOENIG ET AL.	
	<b>Examiner</b> Dave Robertson	<b>Art Unit</b> 2121	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 19 March 2009.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |                                                                                      |                                                                   |
|--------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____                                                          | 6) <input type="checkbox"/> Other: _____                          |

### **DETAILED ACTION**

1. This is a Non-final office action after the filing of a Request for Continuation (RCE) on 3/19/2009. Claims 1-11 are pending.

### ***Continued Prosecution Application***

2. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 3/19/2009 has been entered.

### ***Response to Amendments***

3. Applicant amends claims to correct informalities and to add limitations to independent claims 1 and 6. These amendments are addressed below.

### ***Drawings***

4. As noted by Applicant, the filing of drawings on 7/6/2005 on page 15 and 16 of the International Application in this 371 National Stage US application is acknowledged. No further drawings are presently required.

***Specification***

5. The amendment filed 3/19/2009 is objected to under 35 U.S.C. 132(a) because it introduces new matter into the disclosure. 35 U.S.C. 132(a) states that no amendment shall introduce new matter into the disclosure of the invention.

The first paragraph of page 7/8 is amended as indicated:

Figure 2 illustrates the effective progression of the path 19 created by the measuring heads 12 if they move at a uniform speed in the direction (x) perpendicular to the conveying direction (z) of the film 8. Since the measuring head 12 moves at a uniform speed, it provides a uniform, i.e., time-equidistant, measurement of the film thickness.

However, the inserted material is not supported by the original disclosure. Specifically, while the original specification discloses a measuring head moving at a uniform speed (see Figure 2 (12) and the unamended portion of the specification above), there is nothing in the original disclosure of the measurement head providing uniform, *time-equidistant* measurement of the film thickness. Nor is there equivalent disclosure of the measurements taken at uniform time *intervals*, which in conjunction with the uniform speed of the measuring head, would necessarily result in time-equidistant measurements.

From MPEP ¶ 2163.07(a) Inherent Function, Theory, or Advantage (emphasis added):

By disclosing in a patent application a device that *inherently* performs a function or has a property, operates according to a theory or has an advantage, a patent application necessarily discloses that function, theory or advantage, even though it says nothing explicit concerning it. The application may later be amended to recite the function, theory or advantage without introducing prohibited new matter. In re Reynolds, 443 F.2d 384,

170 USPQ 94 (CCPA 1971); In re Smythe, 480 F. 2d 1376, 178 USPQ 279 (CCPA 1973). “To establish inherency, the extrinsic evidence must make clear that the missing descriptive matter is *necessarily* present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill. Inherency, however, may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient.” In re Robertson, 169 F.3d 743, 745, 49 USPQ2d 1949, 1950-51 (Fed. Cir. 1999) (citations omitted)

Certain “extrinsic evidence” in the art (e.g. US Pat. 3,610,899 and US Pat. No. 4,947,684) teaches a measuring head moving at a uniform speed and providing time-equidistant measurement of film thickness (see e.g. ‘684 column 1, lines 37-56). However, it is not apparent from these teachings that it must *necessarily* be that measurements are taken at uniform intervals. That is, with appropriate controls, a measuring head may take measurements at non-equidistant intervals, and thus time-equidistant measurement is not *inherent* in a measuring head moving at a uniform speed.

In the Remarks (page 8) Applicant asserts that support for the amendment is implicit in the original disclosure, i.e. in the in the depiction of Figure 2 (19) showing the path of the measuring head and from knowledge of one skilled in the art at the time of the invention. However, Applicant provides no factual support for the assertion that such a measurement head would have necessarily provided measurements at time-equidistant intervals. Barring a finding or argument of explicit support of inherent function, theory, or advantage for such assertion, Applicant is required to cancel the new matter in the reply to this Office Action.

***Response to Arguments***

6. Applicant's arguments with respect to claims 1-11 have been considered but are moot in view of the new ground(s) of rejection.

***Claim Rejections - 35 USC § 112***

7. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

8. Claims 1-11 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Newly amended (independent) claims 1 and 6 recite:

measuring a thickness value profile of the extruded film...in the direction (x) perpendicular to the conveying direction (z) by measuring thickness values in equidistant time intervals;

However, there is no support in the original disclosure for measuring thickness values in equidistant time intervals. As noted above under objections to the specification, there is nothing inherent in the measuring head moving at uniform speed that *necessarily* results in time-equidistant measurement of the film thickness. See MPEP ¶ 2163.07(a). Notwithstanding, the new matter limitation must be considered upon examination of the claim in the analysis herein.

9. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

10. Claims 1-11 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention:

Claims 1 and 6 recite ...*a predetermined time-frame at a start of the extrusion process being more heavily weighted by the computer than the measured values obtained during a normal operation...* However, it is not precisely clear from the disclosure what predetermined time-frame defines *at a start of the extrusion process* or by what means or extent the *measured values* are more heavily weighted. The disclosure also does not precisely define the time-frame of a normal operation.

Therefore, for the purposes of examination, claims will be given their broadest reasonable interpretation as *a predetermined time-frame* (some time period) *at a start of* (after a start or distinct change in operation of) *the extrusion process as being more heavily weighted* (given greater emphasis or numerically enhanced) *by the computer than the measured values obtained during a normal operation* (some period following the start of the extrusion process).

Amendment or clarification is requested.

Claims 5, 10, and 11 recite ...*measuring cycles [or] weighting factors...is made to approximate in steps...* However, it is not precisely clear from the disclosure the meaning of approximate in steps. Page 5/8 of the original specification discloses an

apparently related feature where “(N and kn) should be traced back in the course of the extrusion process to the values of the normal operation.” Still, it is unclear how the cycles (N) and weights (kn) being *traced back* relates to the meaning of *approximate in steps*. For the purposes of examination, the limitation will be interpreted as at least one *step*, a change in the number of cycles or weights, occurring between the start of the extrusion process and the normal operation, as interpreted for claims 1 and 6 above.

Amendment or clarification is requested.

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claims 1-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dahlin (US Pat. No. 3,610,899) in view of Akasaka. (US Pat. No. 4,994,976) and further in view of Hirata et al. (US Pat. 6,856,855).

#### Claim 1

Dahlin teaches **a process for the automatic control of the thickness of an extruded film, comprising:**

**measuring a thickness value profile of the extruded film with a thickness-measuring probe that is moved along a surface of the film in a direction (x) that is substantially perpendicular to a conveying direction (z) of the extruded film, the**



**thickness-measuring probe recording for each measuring cycle the thickness value profile of the film at least across parts of an expansion area of the film in the direction (x) perpendicular to the conveying direction (z) by measuring thickness values in equidistant time intervals** (see Figure 6 and 3A; column 1, lines 45-54; esp. column 3, lines 10-16);

**transmitting the measured values to a control unit** (see Figure 6 (54) Controller; esp. column 5, lines 11-20);

**storing the measured values in a storage unit** (see column 3, line 55);

**determining statistical values of the film thickness** (column 1, lines 60-75: *average* and *variance* are statistical values) **with a computer** (column 4, line 60), **the computer accounting for the measured values or information derived therefrom using a fixed number of the measuring cycles and providing measured values from recent and previous measuring cycles with different weighting factors** (column 3, lines 40: *exponential weighting* as described and depicted by Figure 3B for each of cycles 'A' – 'F'),

**determining deviations in the statistical values of the film thickness from a target value** (column 1, lines 60-75: *variance* is a deviation in a statistical value);

**and generating control commands to a device for controlling the film thickness** (Figure 6 (54); column 5, lines 20-33).

While Dahlin explicitly teaches measured values more recently obtained being more heavily weighted by the computer than the measured values later obtained (column 3, lines 40: *exponential weighting* as described and depicted by Figure 3B for

each of six measurement cycles 'A' – 'F', noting that a decreasing weight is applied to previous cycle measurements along a slice in the direction of the film); however, Dahlin does not explicitly make a distinction between measured values of a **pre-determined time-frame** and measured values of a **normal operation**.

Akasaka teaches directly in the art of the present invention, the thickness profile of a film at the start of an extrusion process where the variation in thickness to the desired thickness settles over a five (5) measurement cycles (as depicted in Figure 13A showing thickness variation to target thickness over cycles No. 1, No. 2, ..., No. 5). Akasaka's teachings show that applying the control methods of Dahlin would necessarily result in measured values obtained during a predetermined time-frame at the start of the extrusion process being more heavily weighted by the computer than the measured values obtained during a normal operation subsequent to the predetermined start time-frame. Hirata et al. provides motivation for such application of Dahlin to the start of the extrusion process, as Hirata teaches the use of such time-weighted filtering measured values "to correct large thickness irregularity immediately after [the] start of sheet production..." (Hirata, column 25, lines 37-47).

It would have been obvious to one of ordinary skill in the art at the time of the invention to apply Dahlin at the start of the extrusion process, applying the greater weighting of more recently measured cycles (of a predetermined time-frame) than of later measured cycles (normal operation), as this would have predictably resulted in faster correction to thickness irregularities at the start of the process, thereby resulting in more output at the desired film thickness.

Claim 2

Dahlin teaches or suggests **the process pursuant to claim 1,**

**wherein the computer determines the statistical values by accounting for the measured values or the information derived therefrom using a smaller number of the measuring cycles during the predetermined time-frame at the start of the extrusion process than a number of the measuring cycles used during the normal operation** (as above for claim 1 and rejections under 112, 2<sup>nd</sup> paragraph, noting lack of definition a *predetermined time-frame* and what constitutes *normal operation*,

Dahlin teaches exponentially weighted filtering over a fixed number of measuring cycles which when applied to the start of the extrusion process results in some cycles measured during large variation and the remainder during cycles with small variation.

There being no distinction as claimed or disclosed as to the precise number of cycles in a *pre-determined time-frame* or the *normal operation*, there is then no *functional* distinction to a recited step of *accounting for...using a smaller number of cycles...than a number...used during the normal operation*, because applying Dahlin to a successive number of fixed cycles necessarily results in “accounting for” (taking some measure of) a smaller number of cycles of some time-frame (e.g. cycles ‘A’-‘D’) and then “accounting for” the remainder of the fixed cycles (e.g. ‘E’ and ‘F’). As claim 2 is recited, designating a first smaller set of cycles for accounting does nothing to *functionally* distinguish the operation of Dahlin against and the present invention as claimed, as both “account for” all of a set of fixed cycles.).

Claim 3

Dahlin teaches or suggests **the process pursuant to claim 1, wherein the computer determines the statistical values during the predetermined time-frame at the start of the extrusion process and at least one previously measured value is provided with a smaller weighting factor than the weighing factor used during the normal operation** (see above for claim 1, noting that Dahlin applies a smaller weighting factor to cycle 'A', for example, which would correspond to the profile taught by Akasaka's cycle No. 1).

Claim 4

Dahlin teaches or suggests **the process pursuant to claim 1, wherein the computer determines the statistical values during the predetermined time-frame at the start of the extrusion process and at least one recently measured value is provided with a larger weighting factor than the weighting factor used during the normal operation** (see above for claim 1, noting that Dahlin applies a larger weighting factor to cycle 'E', for example, which would correspond to the profile taught by Akasaka's cycle No. 5).

Claim 5

Dahlin teaches or suggests **the process pursuant to claim 2, wherein at least one of the number of the measuring cycles and the weighting factors after the start of the extrusion process is made to approximate in steps at least one of the number of the measuring cycles used in the normal operation and the weighting factors used in the normal operation** (see discussion

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above for claim 1, and Figure 13B showing “steps” in the weighting factors applied to cycles ‘A’ to ‘F’ with ‘A’, thereby *approximating* decreasing time-weighted *steps*).

Claim 6 recites a device substantially for performing the method claim 1, and is similarly rejected for reasons given above for claim 1.

Claims 7-11 recites steps substantially as in claims 2-5 above, and are similarly rejected for reasons given above for the respective claim and claim elements.

### ***Conclusion***

12. The prior art made of record and listed on the attached PTO Form 892 but not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dave Robertson whose telephone number is (571)272-8220. The examiner can normally be reached on 8 am to 6 pm, M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Albert Decady can be reached on (571) 272-3819. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Dave Robertson/  
Examiner, Art Unit 2121

/Albert DeCady/  
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